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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,437	02/05/2002	Narutoshi Hayashi	Q68365	2621

23373 7590 07/18/2003

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WASHINGTON, DC 20037

EXAMINER

JUBA JR, JOHN

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/062,437	Applicant(s) HAYASHI ET AL.	
	Examiner John Juba	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 12/1, 13/12/1, and 14/12/1 is/are rejected.
- 7) ☒ Claim(s) 6-11, 12/8, 12/9, 13/12/8, 13/12/9, 14/12/8, and 14/12/9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2 1/2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 5, 12/1, 13/12/1, and 14/12/1 are rejected under 35 U.S.C. 102(b) as being anticipated by SUMITOMO CHEMICAL (WO 96/07941 A1). SUMITOMO CHEMICAL disclose a polarizing plate comprising

a polarizing layer having a thickness of 1 – 5000 nm (Pg. 3, line 4);

a rubbed substrate (see “Preparation Methods”, Pg. 25); and

a dye having a tabular molecular shape (e.g., a perylene dye (VI) pp. 21-22 or an anthraquinone dye (II), Tables 2-1 through 2-4).

The recitation of the manner in which the polarizing layer is formed is recognized as requiring the presence of a rubbed substrate surface, and associated rubbing direction, and as requiring the layer to be a dried, oriented layer of molecules having a tabular molecular shape with the tabular molecular shape oriented “roughly perpendicular” to the rubbing direction. That is, the recitation of the layer as having been coated as “an aqueous solution” is believed to be a process limitation that does not impart any recognizable distinguishing characteristic to the final product:

"Process limitations cannot impart patentability to product claim where product is not patentably distinguished over prior art." *In re Dike*, 157 USPQ 581 (CCPA 1968).

It is well-settled that the "[p]resence of process limitations in product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to that product." *In re Stephens*, 345 F.2d 1020 (CCPA 1965), 145 USPQ 565, citing *Dilnot*. In any event, SUMITOMO CHEMICAL disclose solution coating and drying on the rubbed substrate (see "Preparation Methods", Pg. 25), and disclose that some of the solutions may be aqueous.

Thus, SUMITOMO CHEMICAL expressly disclose every positively recited structural limitation, and are silent only as to the orientation of the *tabular* molecules. Nonetheless, since SUMITOMO CHEMICAL disclose the same type of dyes and alignment method, the examiner has reasonable belief that the tabular molecular shape inherently will be oriented "roughly perpendicular" to the rubbing direction, as recited. If such is not the case, then Applicant should demonstrate that this feature is not inherent. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). That is, the perylenes and anthraquinones of SUMITOMO CHEMICAL may be pendant from the PTFE chain at any of a plurality of sites (at either end of their form), and still be regarded as being oriented "roughly perpendicular" to the PTFE chain (and thus to the rubbing direction).

With regard to claim 5, SUMITOMO CHEMICAL disclose that the layer can be on another alignment layer, the other alignment layer comprising polyester (Pg. 28, lines 24 – 28).

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Allowable Subject Matter

Claims 6 – 11, 12/8, 12/9, 13/12/8, 13/12/9, 14/12/8, and 14/12/9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art, taken alone or in combination, fails to teach or to fairly suggest, *in combination*,

the use of cellulose resin film as the rubbed substrate, as recited in claim 6;

the use of a norbornene resin film as the rubbed substrate, as recited in claim 7;

or

the further inclusion of a reflecting layer, as variously recited in claims 8 – 11.

Response to Amendment

Applicants' new abstract is noted with appreciation as overcoming the previous objection to the abstract content.

Applicants' remarks have been fully considered, but the amendment to claim 1 is not sufficient to distinguish over the prior art to SUMITOMO CHEMICAL. The examiner concurs that the PTFE chains of SUMITOMO CHEMICAL are oriented parallel to the rubbing direction. Further, the examiner concurs that the azo dye molecules are aligned parallel to these chains and to the rubbing direction, since these dyes have a rod-like molecular shape exhibiting absorption along their long axis (generally along the N=N

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cis:trans bond). However, this teaching in the reference would not lead one to conclude that molecules having a tabular shape would be oriented in the same fashion. For example, Jones, et al (cited below) teach that dye molecules will be oriented with respect to the substrate rubbing direction in accordance with the type of dichroic dye. The question of unexpected results, however, is generally not relevant, since the rejection here is one of anticipation. It is believed that the claims recite a feature inherent to the combinations disclosed by SUMITOMO CHEMICAL. It would of course suffice to demonstrate that none of the dyes *always* will be oriented as recited. On the other hand, of the species disclosed by SUMITOMO CHEMICAL, the examiner believes that at least one *inherently* manifests the recited orientation, so as to anticipate the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jones, et al (U.S. Patent number 6,124,907) disclose polarizing layers comprising dichroic dyes and a reactive mesogen, and teach that, depending upon the dichroic dye used, the molecules align themselves perpendicularly or ~~in~~ parallel to the rubbing direction of the underlying substrate. Jones, et al disclose that the azo embodiment results in absorption perpendicular to the rubbing direction. However, it will be appreciated that the azo *dye molecules* (themselves) do not have a tabular shape. It is believed that the "anthraquinone" [*sic*; anthraquinone?] molecules have a

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tabular form, but Jones, et al expressly teaches that these molecules are oriented *parallel* to the rubbing direction.

Dreyer discloses polarizing layers on a rubbed substrate and teaches that the *absorption axis* will be parallel or perpendicular to the rubbing direction, depending upon whether the dye molecule exhibits positive or negative dichroism. Since a rod-like molecule exhibiting negative dichroism has an absorption axis perpendicular to the long axis of the molecule, absorption perpendicular to the rubbing direction will (in such cases) be associated with a molecular form oriented parallel to the rubbing direction.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Juba whose telephone number is (703) 308-4812. The examiner can normally be reached on Mon.-Fri. 9 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Drew Dunn can be reached on Mon.- Thu., 9 - 5. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


JOHN JUBA
PRIMARY EXAMINER
Art Unit 2872

July 11, 2003